

LAND APPLICATION SITE

ELIZABETH VOGEL

CRDEV 1 - 6

CAROLINE COUNTY

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 07/14/19 between Pamunkey Property LLC referred to here as "Landowner", and Recyc Systems, Inc. referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

Landowner:

The Landowner is the owner of record of the real property located in Caroline County, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) with county documentation identifying owners, attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
<u>108-A-26</u>			

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one: ☒ The Landowner is the sole owner of the properties identified herein.
☐ The Landowner is one of multiple owners of the properties identified herein.


In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

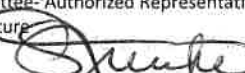
<u>Class B biosolids</u>	<u>Water treatment residuals</u>	<u>Food processing waste</u>	<u>Other industrial sludges</u>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Printed name <u>PAMUNKEY PROPERTY, LLC</u> By: <u>ULRICH VOGEL</u> Title* <u>Manager</u>	Mailing Address <u>WESERSTRASSEY</u> <u>89231 New-ULN</u> Phone No. <u>0491176122357643</u>	Landowner Signature 
<input type="checkbox"/> I certify that I have authority to sign for the landowner as indicated by my title as executor, Trustee or Power of attorney, etc. <input checked="" type="checkbox"/> I certify that I am a responsible official [or officer] authorized to act on behalf of the following corporation, partnership, proprietorship, LLC, municipality, state or federal agency, etc.		

Permittee:

Recyc Systems, Inc., the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

Printed name <u>Susan Trumbo</u>	Mailing Address <u>PO Box 562, Remington Virginia 22734</u>	Permittee- Authorized Representative Signature 
Title <u>Technical Manager</u>	Phone No. <u>540-547-3300</u>	

Permittee: Recyc Systems, Inc

County or City: Caroline County

Landowner: Pamunkey Property LLC

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
 - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
 - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
 - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
 - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
 - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
 - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
 - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
 - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

 - a. Meat producing livestock shall not be grazed for 30 days,
 - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
 - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Wendy Wagner
Landowner's Signature

7/19/19
Date

FARM DATA SHEET

SITE NAME:	Elizabeth Vogel	COUNTY:	Caroline
OWNER:	Pamunkey Property, LLC	OPERATOR:	Tony Bosher
OWNER'S ADDRESS:	Weserstrasse 4 89231 Neu-Ulm Germany	OPERATOR'S ADDRESS:	10359 Georgetown Road Mechanicsville, VA 23116
OWNER'S TELEPHONE:	049-176-22357643	OPERATOR'S TELEPHONE:	804-730-9825
GENERAL FARM TYPE:	Row Crop	CELL PHONE:	804-338-9646
# CATTLE:	None	EMAIL:	-
LAGOON or SLURRY:	None	LATITUDE:	F 1-3 37.802 F 4-6 37.795
TOPO QUAD:	Hanover	LONGITUDE:	F 1-3 -77.359 F 4-6 -77.369
COMMENTS:	METHOD OF DETERMINATION: Online Maps		
Fax Number: 0049-731-1762022			

SD
8-15-19

NEW FIELD CHANGES

ELIZABETH VOGEL

CAROLINE COUNTY

NEW FIELD 1 IS A PART OF OLD FIELD 1.

NEW FIELD 2 IS A PART OF OLD FIELD 1.

NEW FIELD 3 IS A PART OF OLD FIELD 1.

NEW FIELD 4 IS OLD FIELD 2.

NEW FIELD 5 IS OLD FIELD 3.

NEW FIELD 6 IS OLD FIELD 4.

RECYC SYSTEMS, INC

FIELD DATA SHEET

Field Identification	Gross Acres	Environmentally Sensitive Soils				Hydro Map	Tax Map #	FSA Tract #
		Water Table	Bed Rock/ Shallow	Surf/ Leach	Freq Flood			
CRDEV-01	5.3	13E Dec.-Apr.	-	-	-	YO 27	108-A-26	T 757 F 1
CRDEV-02N	9.8	13E Dec.-Apr.	-	-	-	YO 27	108-A-26	T 757 F 2
CRDEV-03N	16.5	13E Dec.-Apr.	-	-	-	YO 27	108-A-26	T 757 F 15
CRDEV-04N	53.2	-	-	-	-	YO 27	108-A-26	T 757 F 12
CRDEV 5	14.3	-	-	-	-	YO 27	108-A-26	T 757 F 5
CRDEV 6	17.8	13E Dec.-Apr.	-	-	-	YO 27	108-A-26	T 757 F 6
TOTAL ACRES IN SITE	116.9							

5/22/2020

Landowner Coordination Form

Signature not required on this page

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THE PLANNER IS NOT STATE CERTIFIED

Nutrient Management Plan Balance Sheet
(Fall, 2019-Winter, 2021)
Elizabeth Vogel
Planner: John Doe

Tract: 757 Location: Caroline
 (N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes	
1/CRDEV 1(N)	5/5	2019 2020	Wheat (grain) *** **	100-60-60 ** **	20/0				80-60-60	N/A			
2/CRDEV 2(N)	10/10	2019 2020	Wheat (grain) *** **	100-60-60 ** **	20/0				80-60-60	N/A			
15/CRDEV 3(N)	17/17	2019 2020	Wheat (grain) *** **	100-60-60 ** **	20/0				80-60-60	N/A			
12/CRDEV 4(N)	53/53	2019 2020	Wheat (grain) *** **	100-60-60 ** **	20/0				80-60-60	N/A			
5/CRDEV 5(N)	14/14	2019 2020	Wheat (grain) *** **	100-60-60 ** **	20/0				80-60-60	N/A			
6/CRDEV 6(N)	18/18	2019 2020	Wheat (grain) *** **	100-60-60 ** **	20/0				80-60-60	N/A			

Commercial Application Methods:
 br - Broadcast ba - Banded sd - Sidedress

Notes:

Soil Test Summary

Tract	Field	Acre	Date	P2O5	K2O	Lab	Soil pH	Lime Date	rec. lime tons/Ac
757	CRDEV 1	5	[No Test]						
757	CRDEV 2	10	[No Test]						
757	CRDEV 3	17	[No Test]						
757	CRDEV 4	53	[No Test]						
757	CRDEV 5	14	[No Test]						
757	CRDEV 6	18	[No Test]						

Field Productivities for Major Crops

Tract Name	Tract/ Field	Field Name	Acres	Predominant Soil Series	Corn	Small Grain	Alfalfa	Grass Hay	Environmental Warnings
757	757/1	CRDEV 1	5	Kempsville	IIIa	II	Not Suited	III	
	757/2	CRDEV 2	10	Bama	IIIa	II	III	II	
	757/15	CRDEV 3	17	Bama	IIIa	II	III	II	
	757/12	CRDEV 4	53	State1	Ib	I	II	I	
	757/5	CRDEV 5*	14	Bojac1	IVa	II	Not Suited	II	High Leaching
	757/6	CRDEV 6	18	State1	Ia	I	II	I	

* Do not apply manure or biosolids more than 30 days prior to planting. Apply commercial fertilizer nitrogen to row crops in split spring applicaions.

Yield Range

Field Productivity Group	Corn Grain Bu/Acre	Barley/Intensive Wheat Bu/Acre	Std. Wheat Bu/Acre	Alfalfa Tons/Acre	Grass/Hay Tons/Acre
I	>170	>80	>64	>6	>4.0
II	150-170	70-80	56-64	4-6	3.5-4.0
III	130-150	60-70	48-56	<4	3.0-3.5
IV	100-130	50-60	40-48	NA	<3.0
V	<100	<50	<40	NA	NA

Farm Summary Report

Plan: **New Plan** **Fall, 2019 - Winter, 2021**

Farm Name: **Elizabeth Vogel**

Location: Caroline

Specialist: John Doe

N-based Acres: 116.9

P-based Acres: 0.0

Tract Name: **757**

FSA Number: 757

Location: Caroline

Field Name: **CRDEV 1**

Total Acres: 5.30 Usable Acres: 5.30

FSA Number: 1

Tract: 757

Location: Caroline

Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
[NO TEST]				

Soils:

PERCENT	SYMBOL	SOIL SERIES
93	11B	Emporia Kempsville
7	13E	Nevarc

Field Warnings:

Field Name: CRDEV 2

Total Acres: 9.80 Usable Acres: 9.80

FSA Number: 2

Tract: 757

Location: Caroline

Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
	[NO TEST]			

Soils:

PERCENT	SYMBOL	SOIL SERIES
5	13E	Nevarc
40	11B	Emporia Kempsville
1	10E	Emporia Kempsville Remlik
55	3B	Bama

Field Warnings:

Field Name: CRDEV 3

Total Acres: 16.50 Usable Acres: 16.50

FSA Number: 15

Tract: 757

Location: Caroline

Slope Class: C Hydrologic Group: B

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
	[NO TEST]			

Soils:

PERCENT	SYMBOL	SOIL SERIES
66	3B	Bama
6	10E	Emporia Kempsville Remlik
22	11B	Emporia Kempsville
6	13E	Nevarc

Field Warnings:

Field Name: CRDEV 4

Total Acres: 53.20 Usable Acres: 53.20

FSA Number: 12

Tract: 757

Location: Caroline

Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
	[NO TEST]			

Soils:

PERCENT	SYMBOL	SOIL SERIES
1	1B	Altavista
17	5B	Bojac1
1	13E	Nevarc
50	23A	State1
9	23B	State1
22	29A	Wickham

Field Warnings:**Field Name:** CRDEV 5

Total Acres: 14.30 Usable Acres: 14.30

FSA Number: 5

Tract: 757

Location: Caroline

Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
[NO TEST]				

Soils:

PERCENT	SYMBOL	SOIL SERIES
21	23B	State1
79	5B	Bojac1

Field Warnings:*Environmentally Sensitive Soils due to:**Soils with potential for leaching based on soil texture or excessive drainage*

Field Name: CRDEV 6

Total Acres: 17.80 Usable Acres: 17.80

FSA Number: 6

Tract: 757

Location: Caroline

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
[NO TEST]				

Soils:

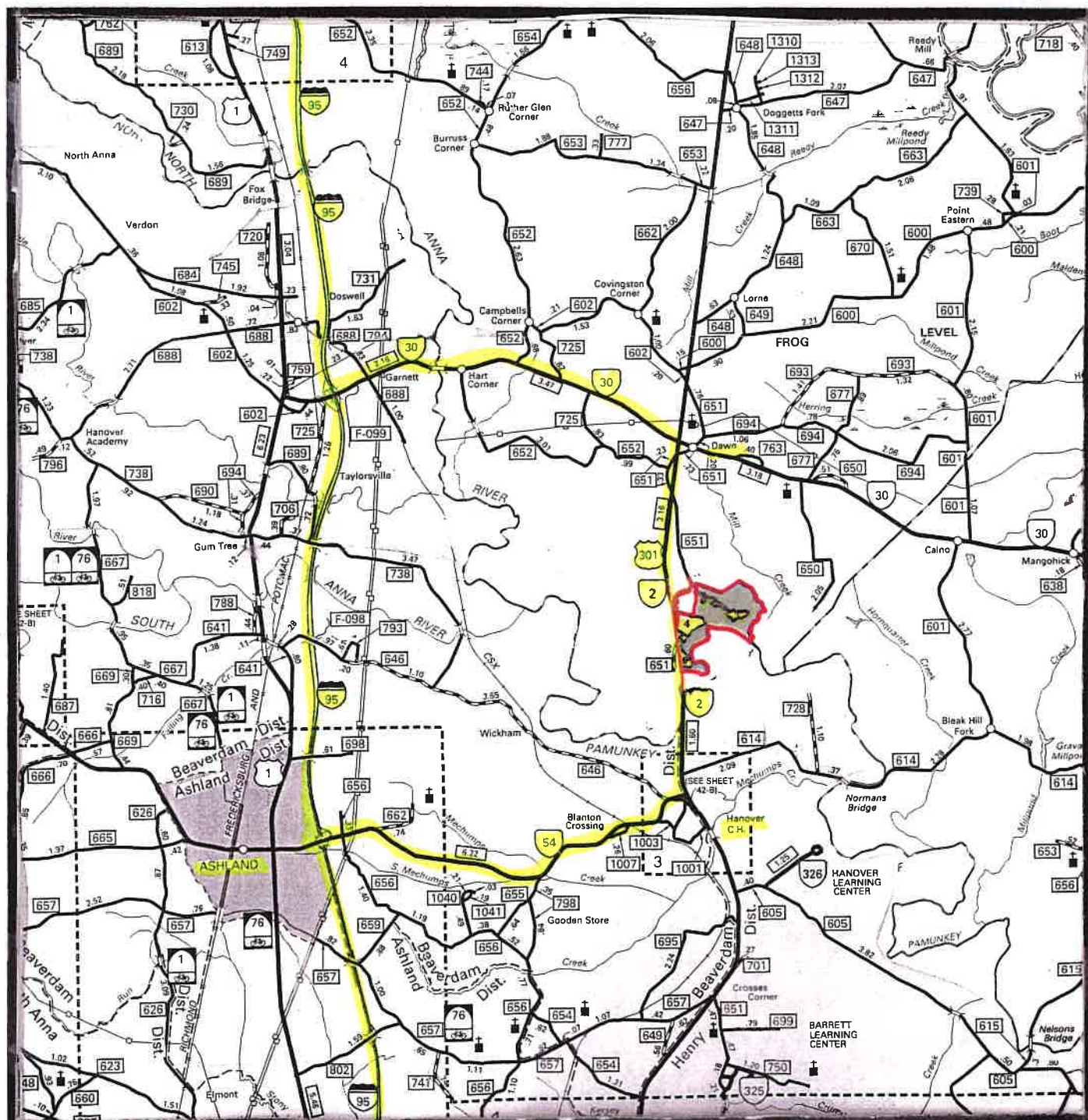
PERCENT	SYMBOL	SOIL SERIES
4	13E	Nevarc
96	23B	State1

Field Warnings:

MAPS

Recyc SystemsTM Inc.

(Biosolids Land Application)



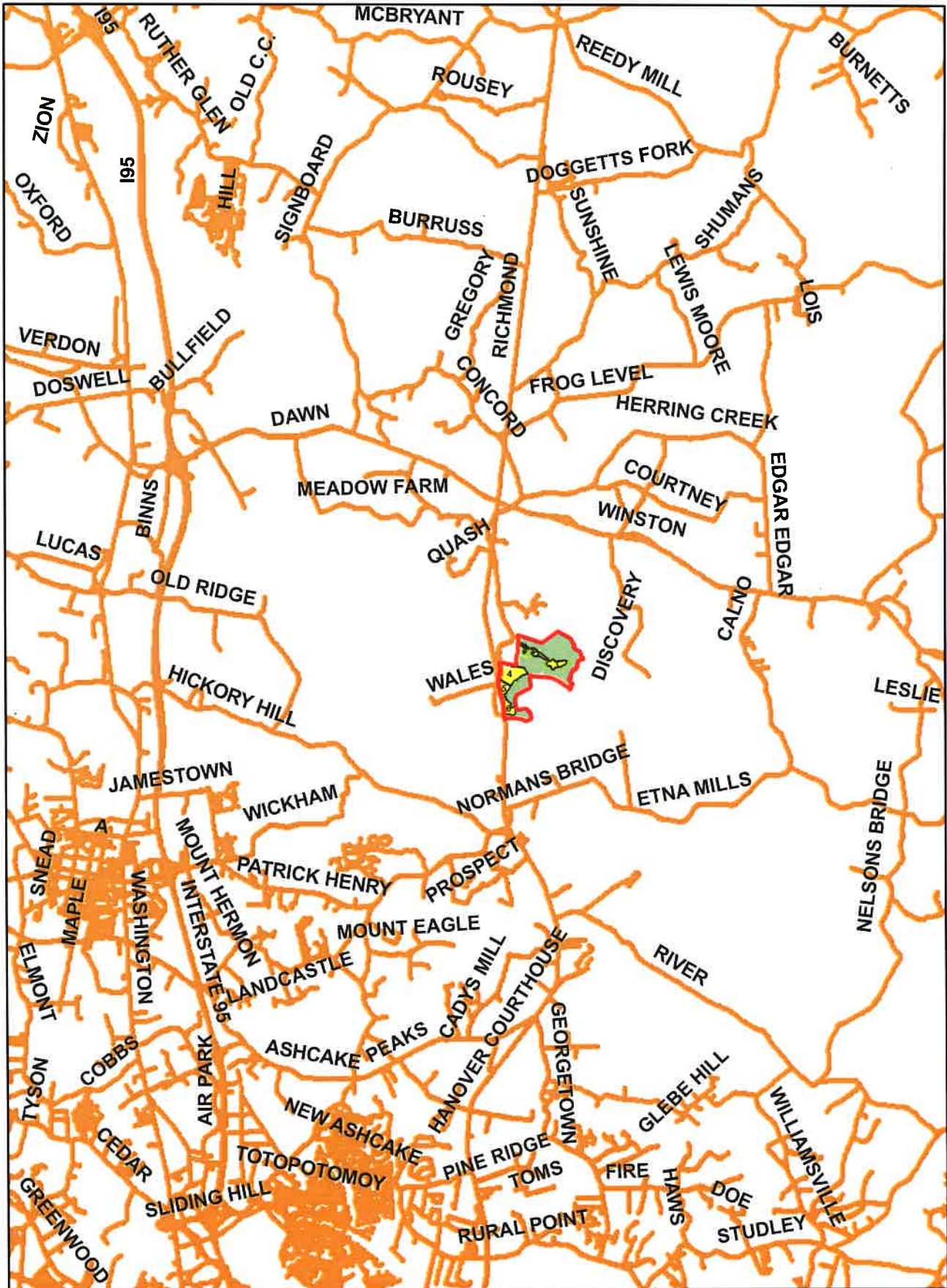
Scale: 1" = 2 Miles

Truck Route marked
in Yellow

VICINITY MAP



8-15-19



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8-15-19

VICINITY MAP

1 in = 1 miles

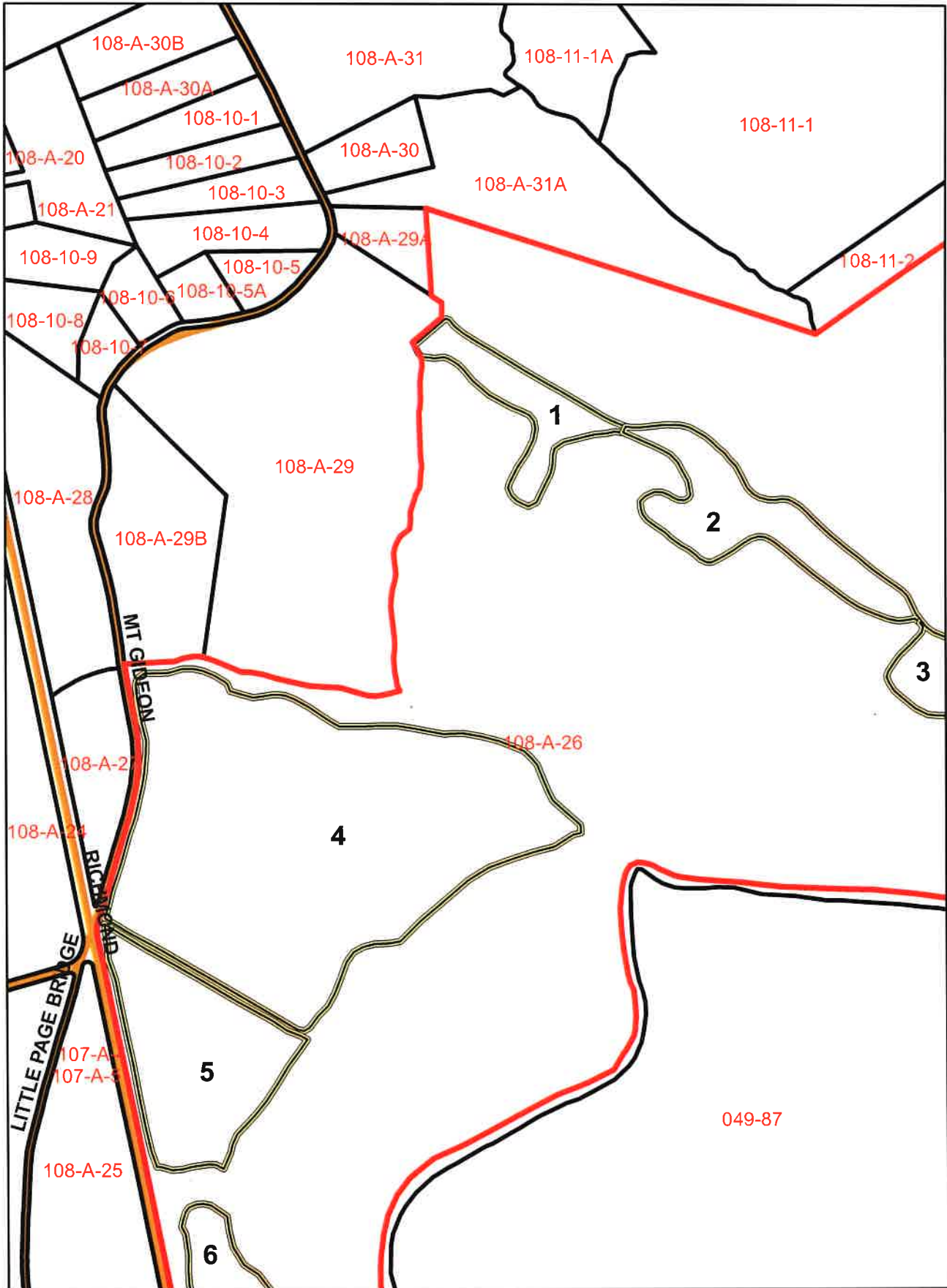




TAX MAP

1 in = 1,500 feet

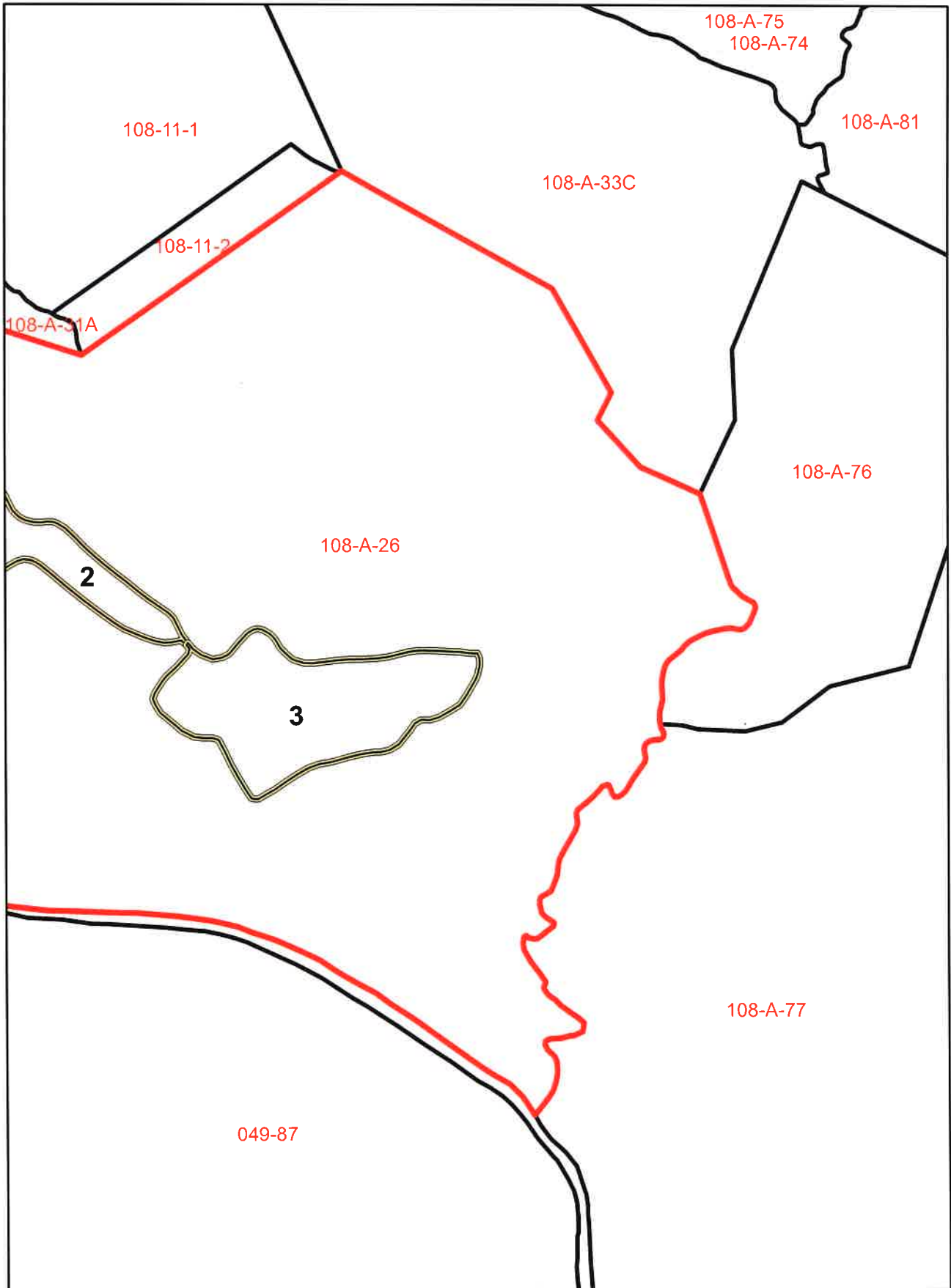




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TAX MAP

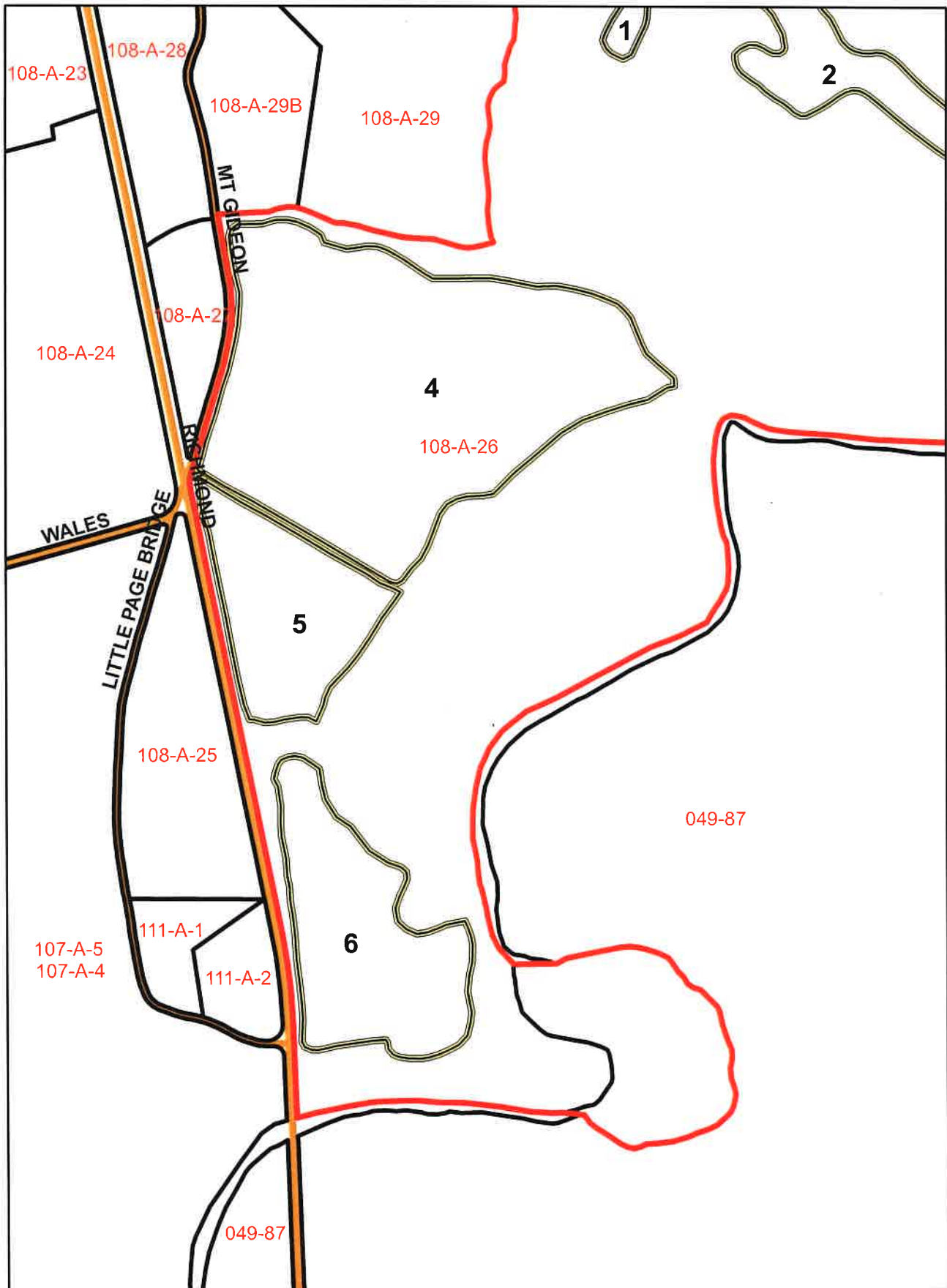
1 in = 660 feet



8-15-19

TAX MAP

1 in = 660 feet



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TAX MAP

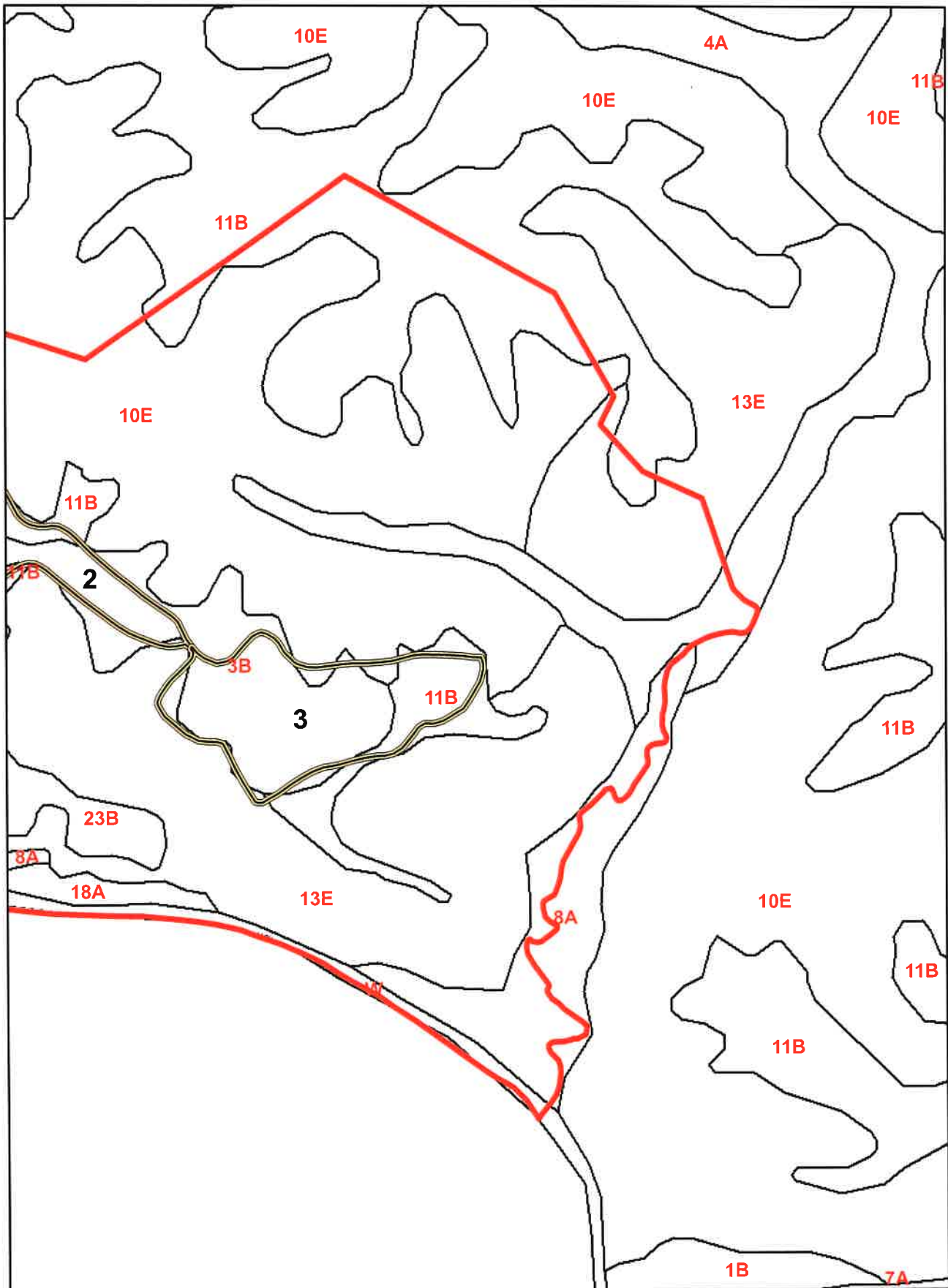
1 in = 660 feet



SOIL MAP

1 in = 660 feet





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SOIL MAP

1 in = 660 feet

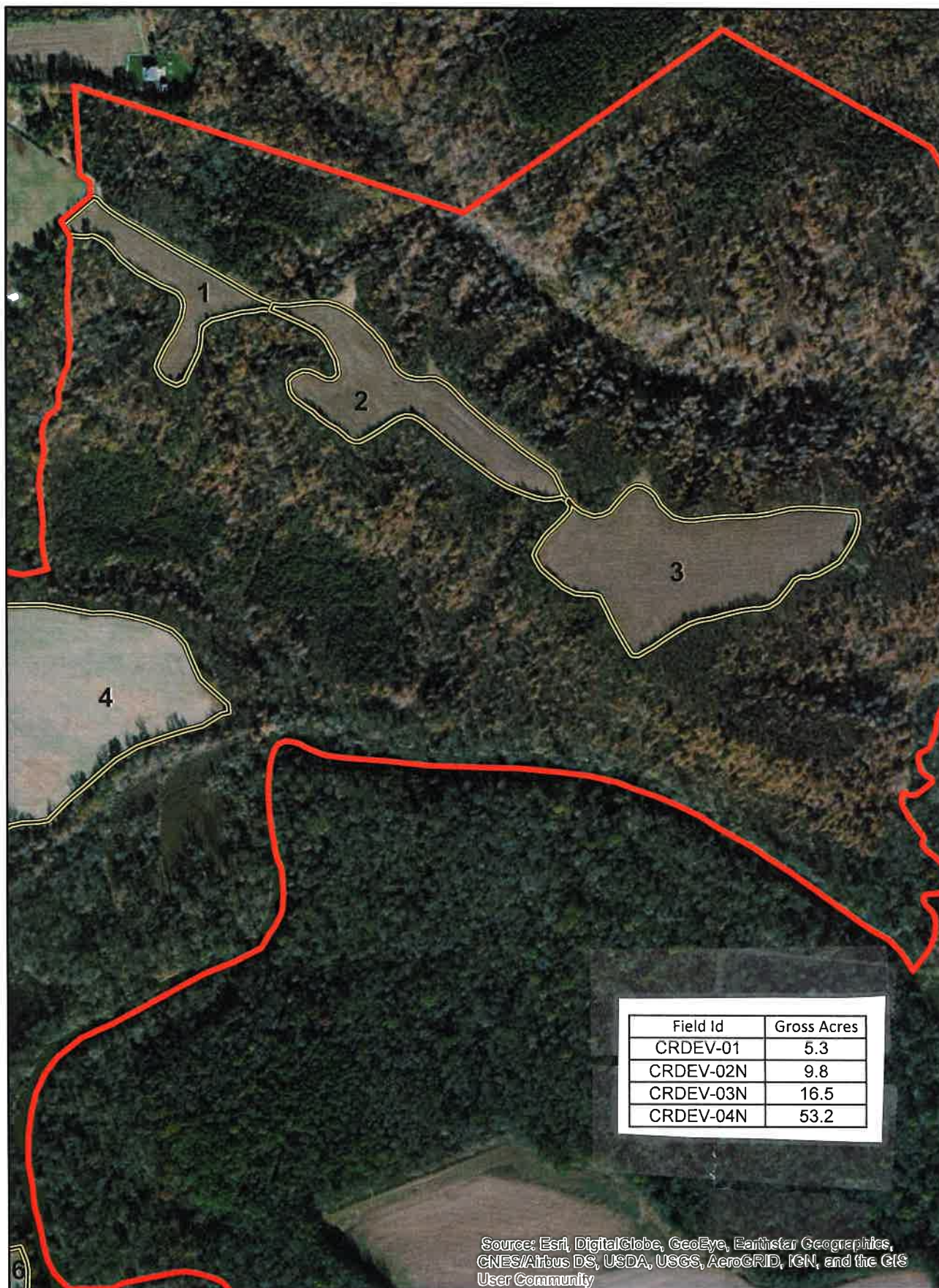
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SOIL MAP

1 in = 660 feet





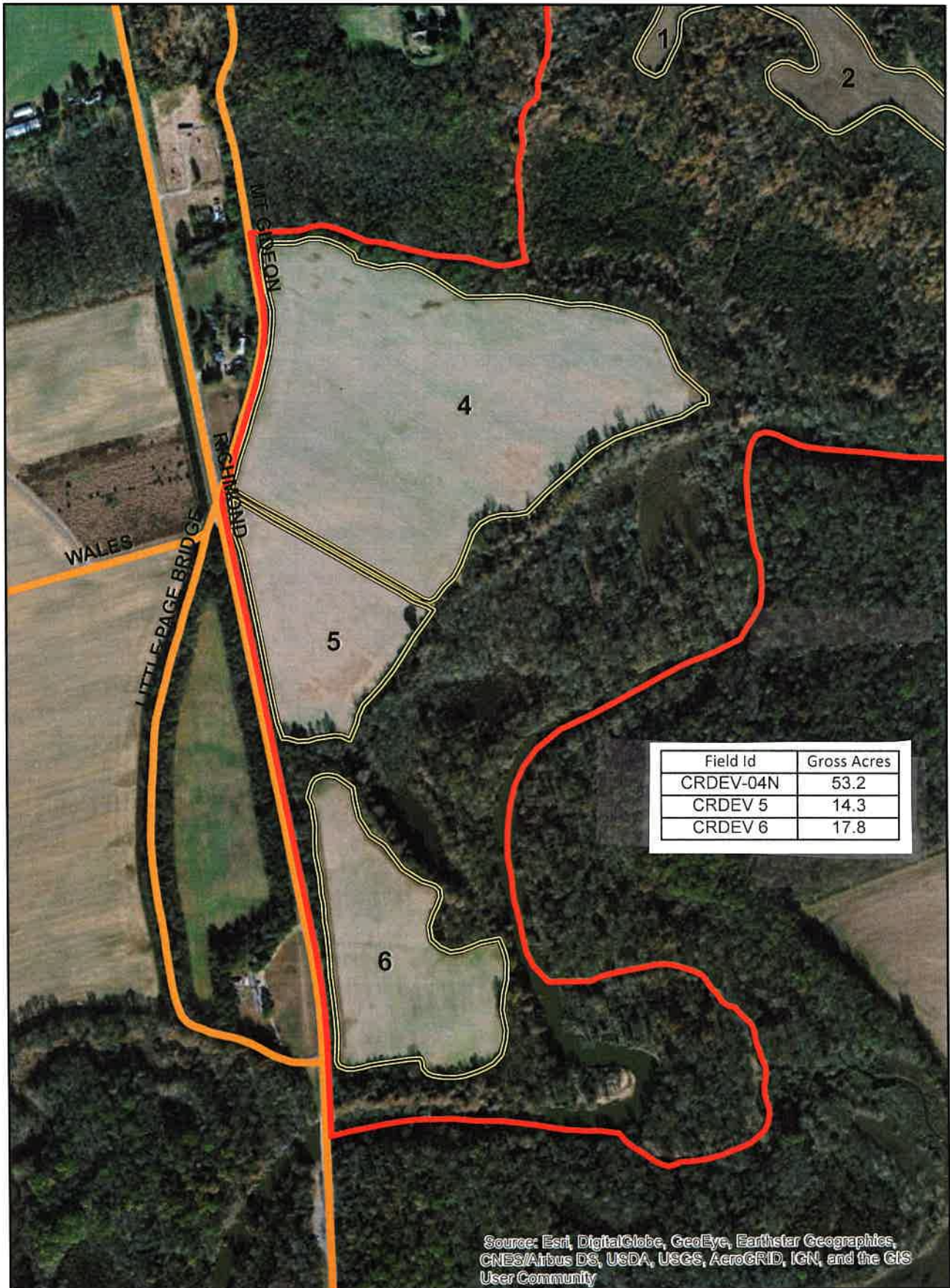
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



8-15-19

AERIAL MAP

1 in = 660 feet



8-15-19

AERIAL MAP

1 in = 660 feet



United States
Department of
Agriculture

Hanover County, Virginia

Farm 2371

Tract 757

2019 Program Year

Map Created June 05, 2019

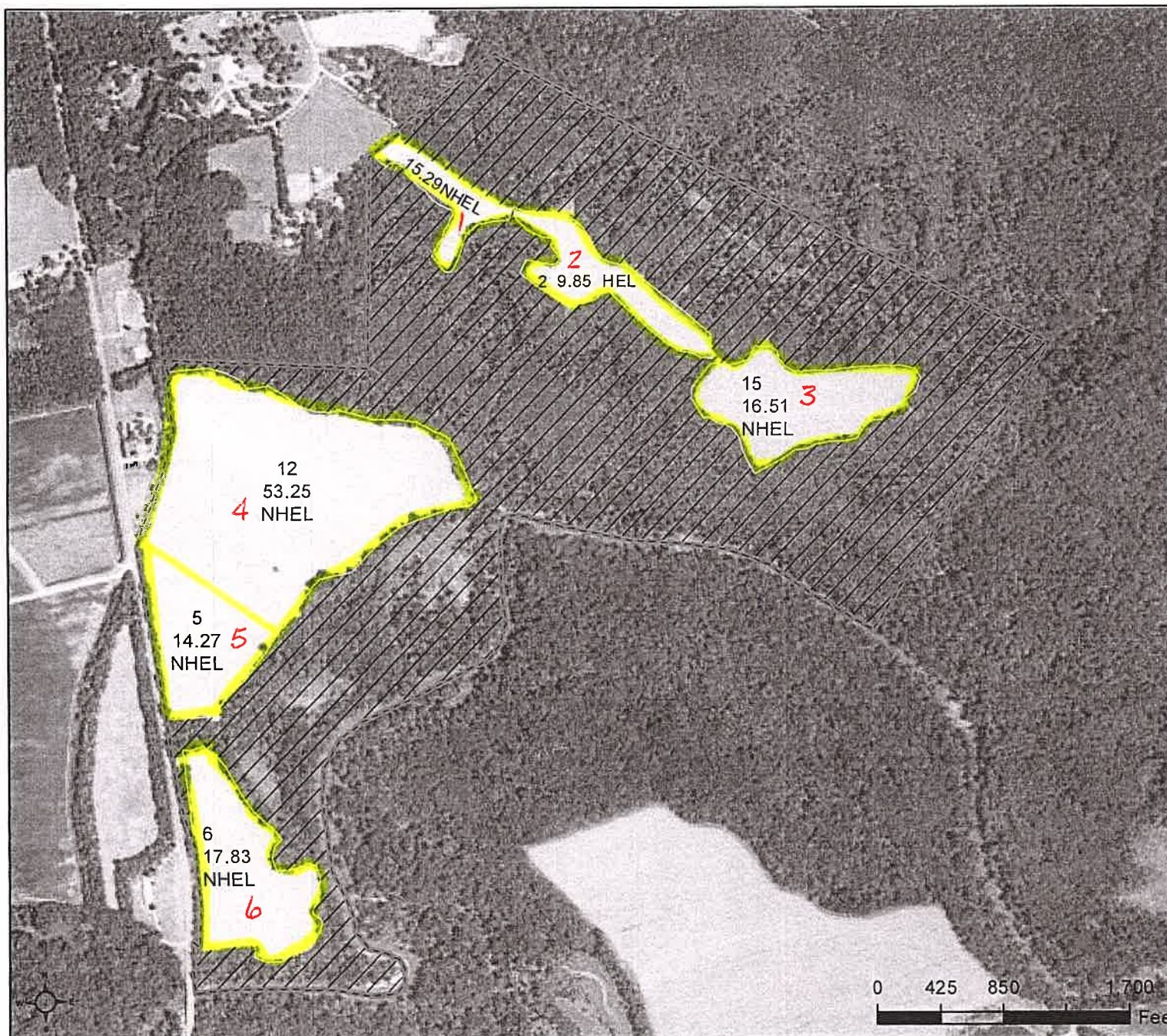
Common Land Unit

- Non-Cropland
- Cropland
- rcl_va085
- Tract Boundary

Wetland Determination Identifiers





- Restricted Use
- ▽ Limited Restrictions
- Exempt from Conservation Compliance Provisions

Tract Cropland Total: 117.00 acres

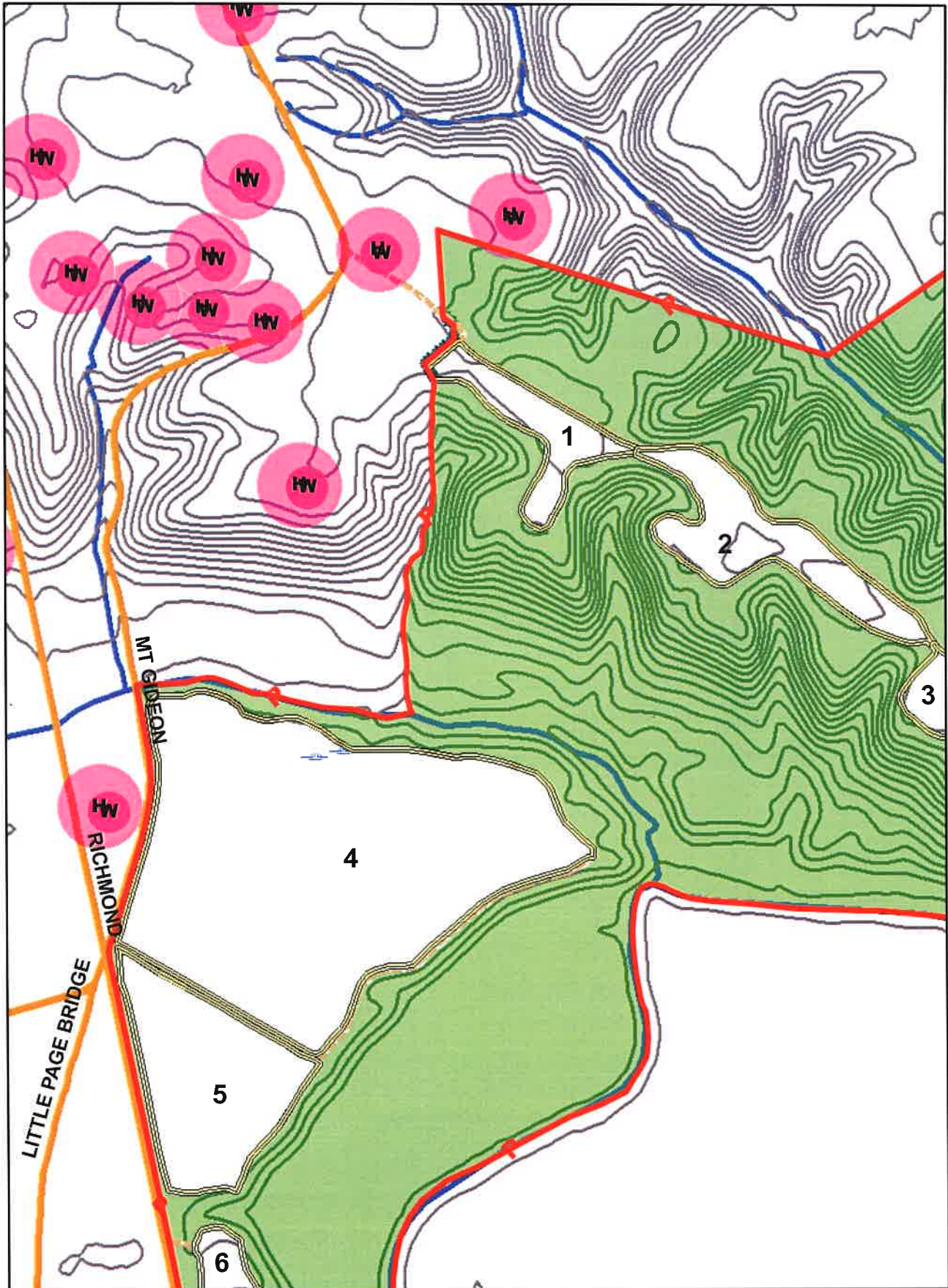


United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. Wetland identifiers do not represent the size, shape, or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).

Legend For Site Plan

Symbol	Feature	Minimum Setback
	House and Well	200 feet from occupied dwelling * 100 feet from water supply wells or springs
 	Well or Spring	100 feet from water supply wells or springs
	Streams or Surface Water	35 feet with 35 foot vegetated buffer 100 feet without vegetated buffer
	Wet Spot	
	Trees and Woods	
	Private Drive	
	Rock Area/Rock Outcrop	25 feet from rock outcrops 50 feet from limestone rock outcrops
	Severely Eroded Spot	18 Inch minimum depth of soil
  	Sink Hole	100 feet from open sinkholes 50 feet from closed sinkholes
	State Road	10 feet from side of roadway
	Fence / Field Boundary	
	Property Line	100 feet from property line *
 	Slope	15% maximum
	Hashed out Area	No application

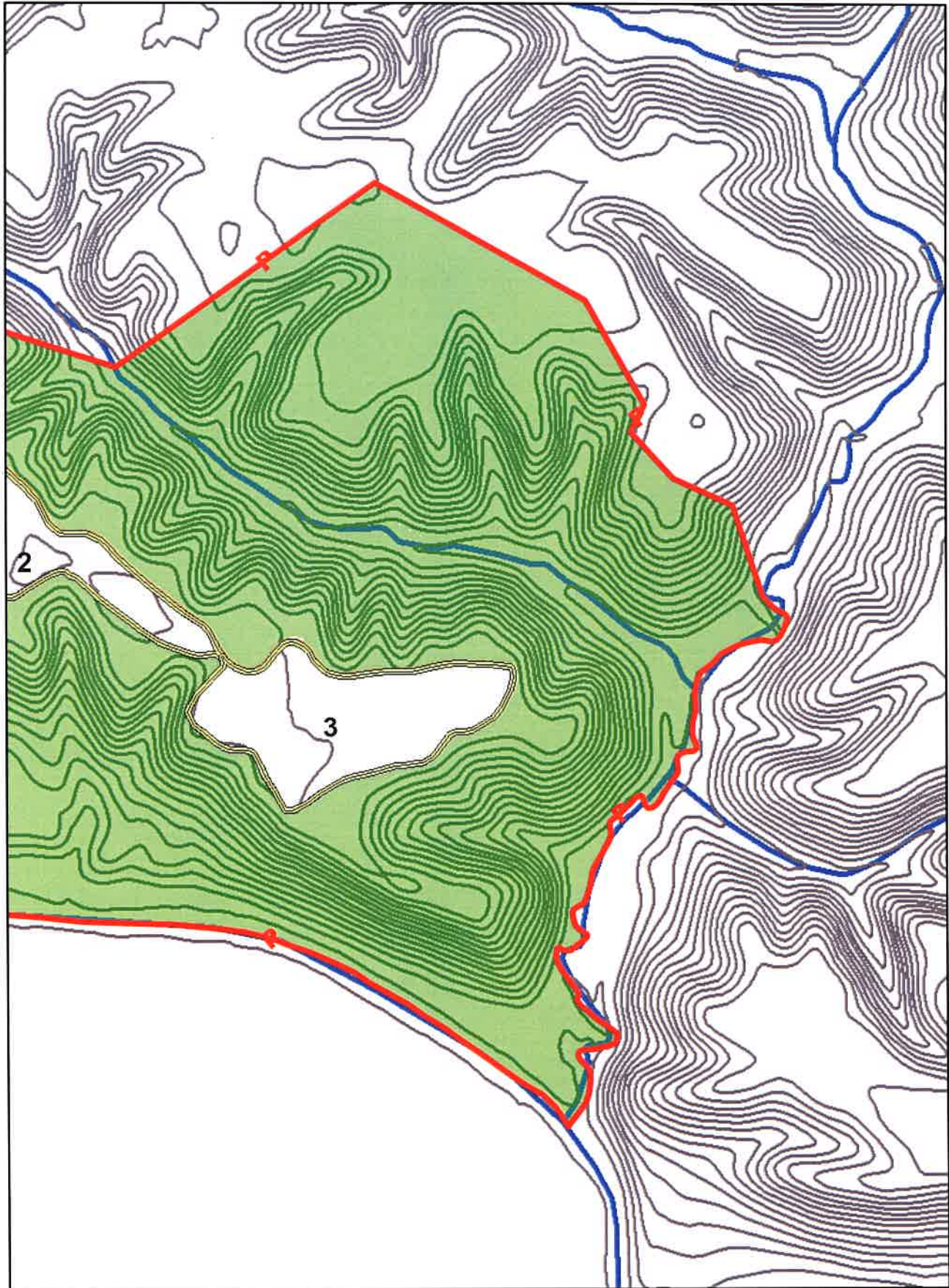
*Buffer can be reduced or waived upon written consent from landowner.



8-15-19

SITE PLAN

1 in = 660 feet

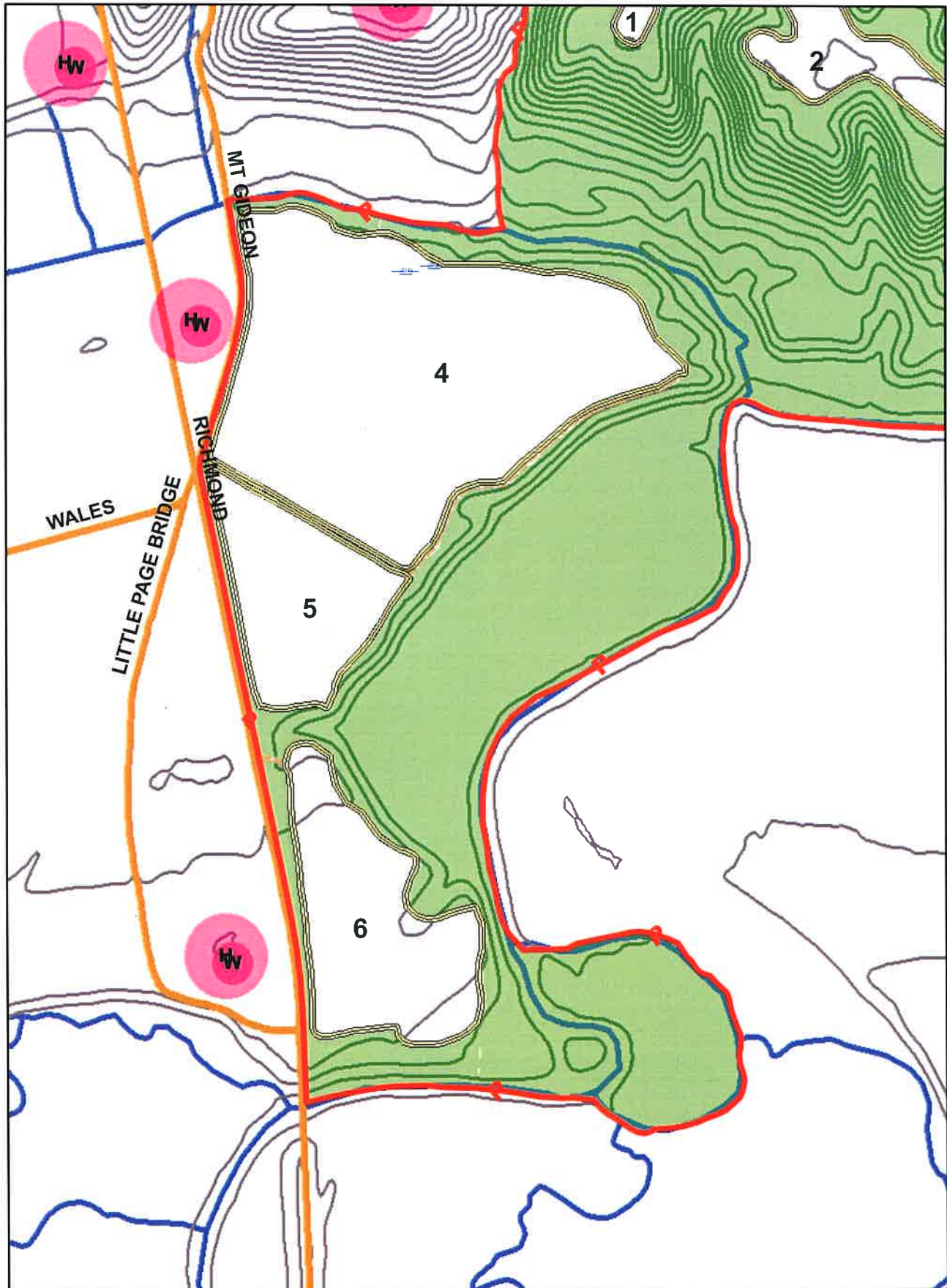


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SITE PLAN

1 in = 660 feet



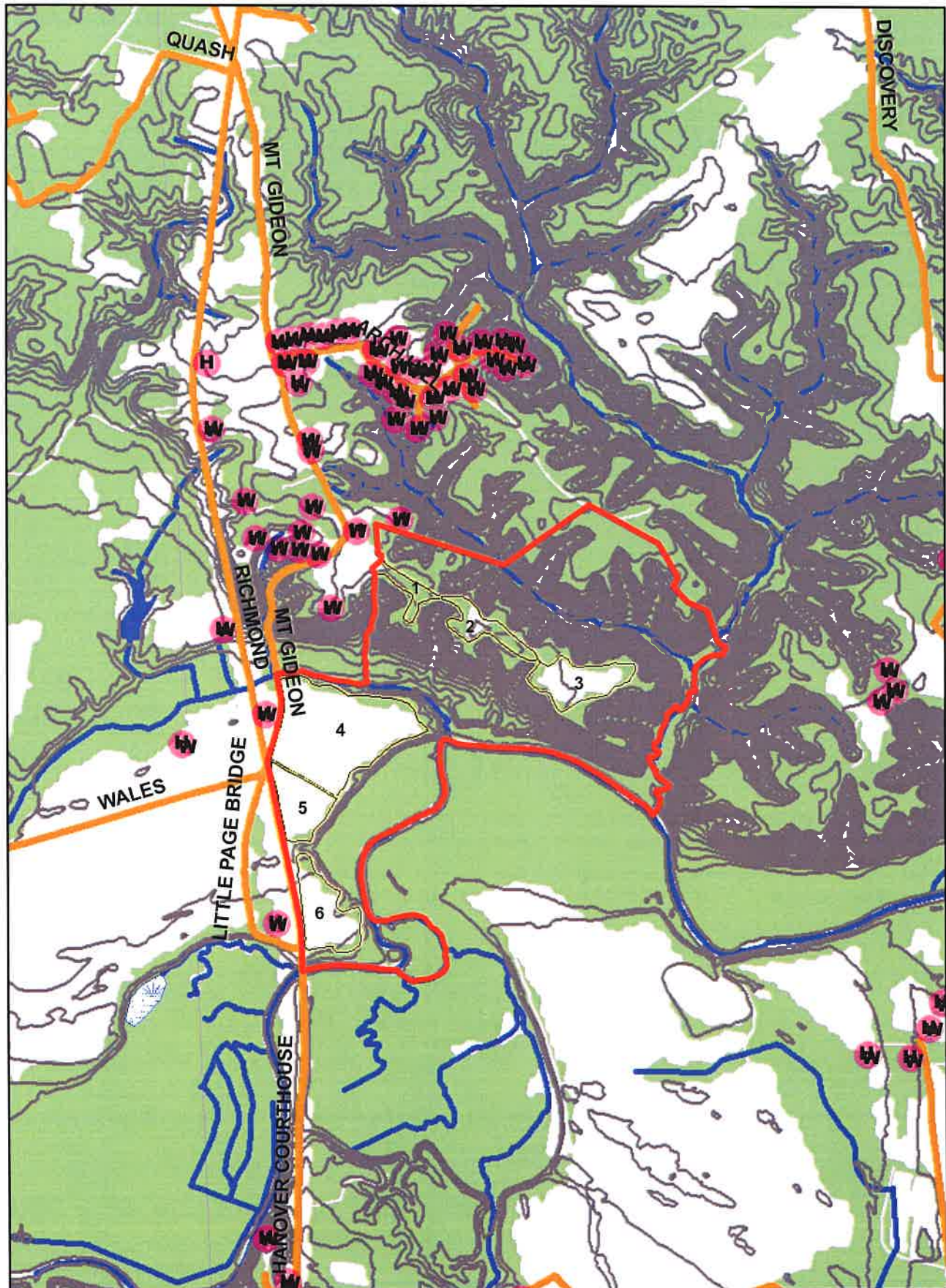


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SITE PLAN

1 in = 660 feet





8-15-19

TOPOGRAPHIC MAP

1 in = 2,000 feet